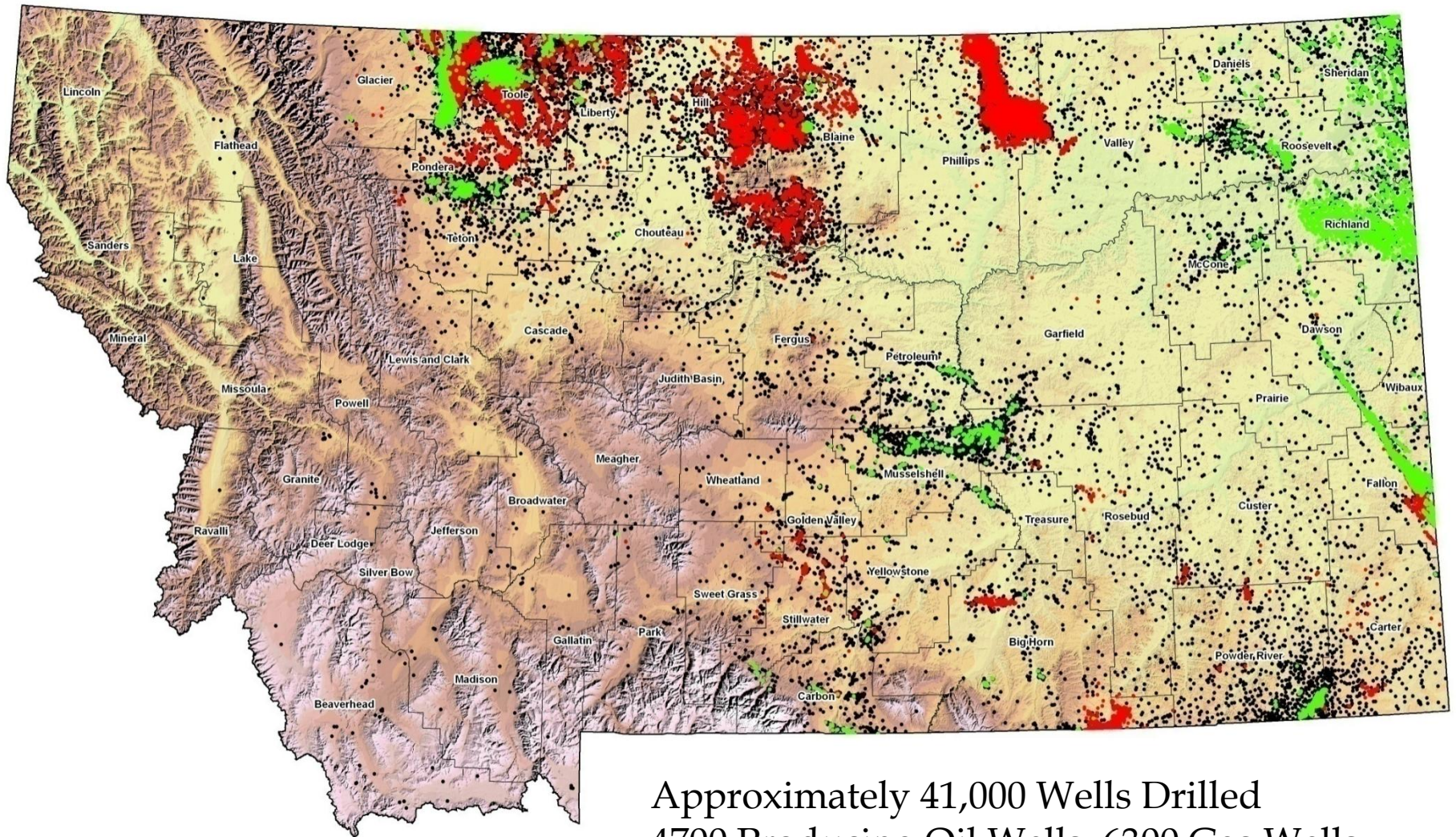


2013 Montana Update

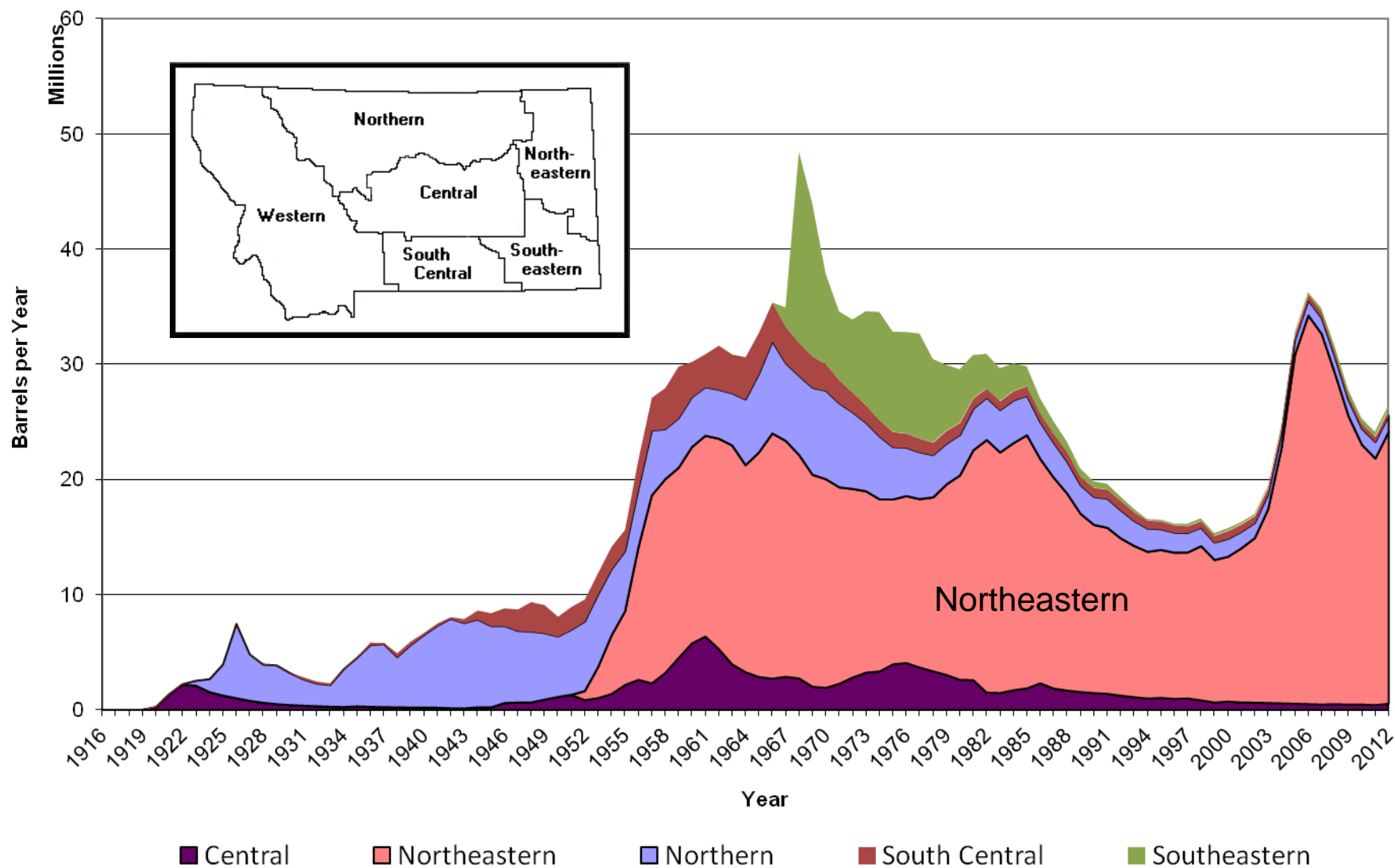


Montana Oil and Gas Activity

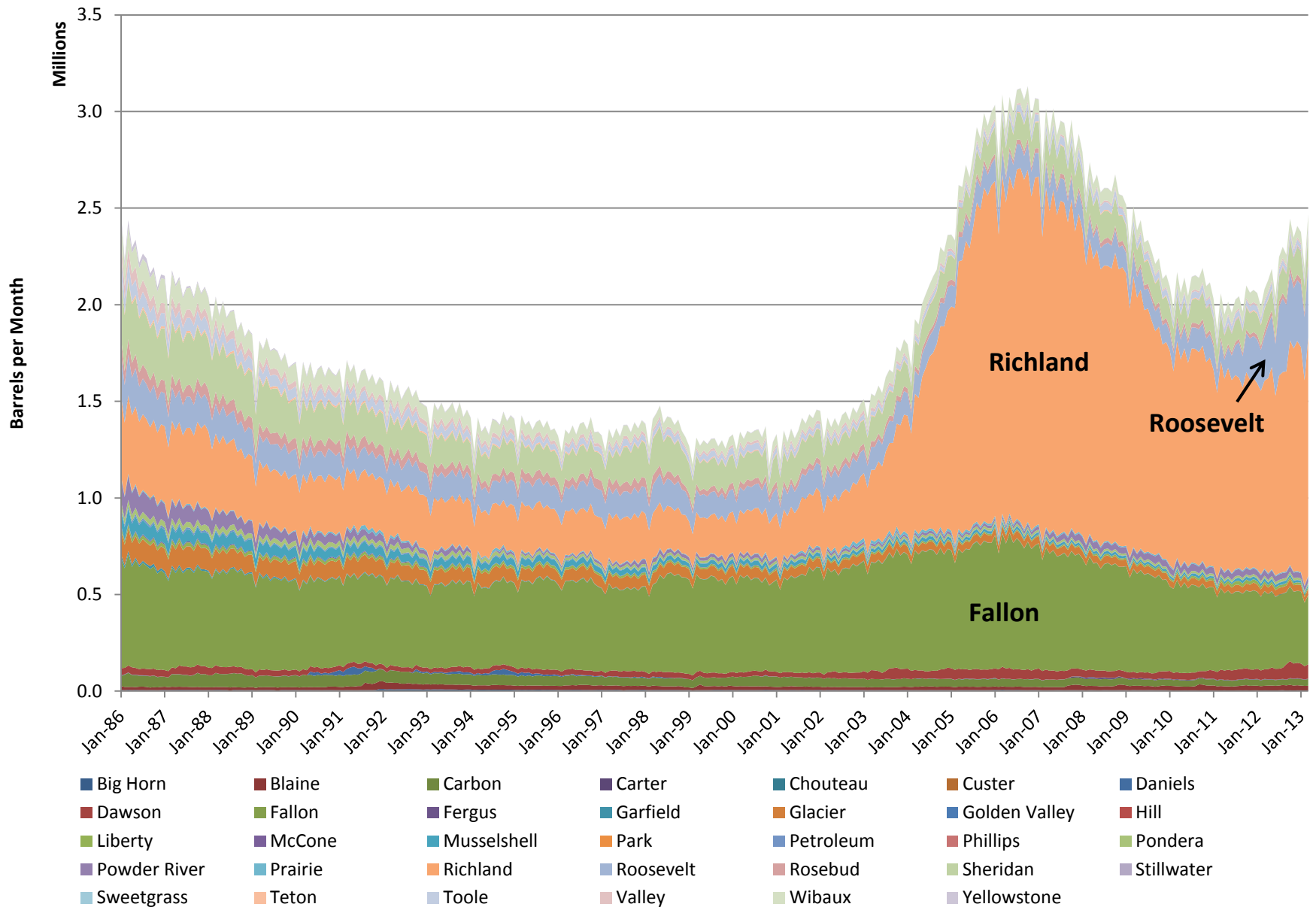


Approximately 41,000 Wells Drilled
4700 Producing Oil Wells, 6300 Gas Wells

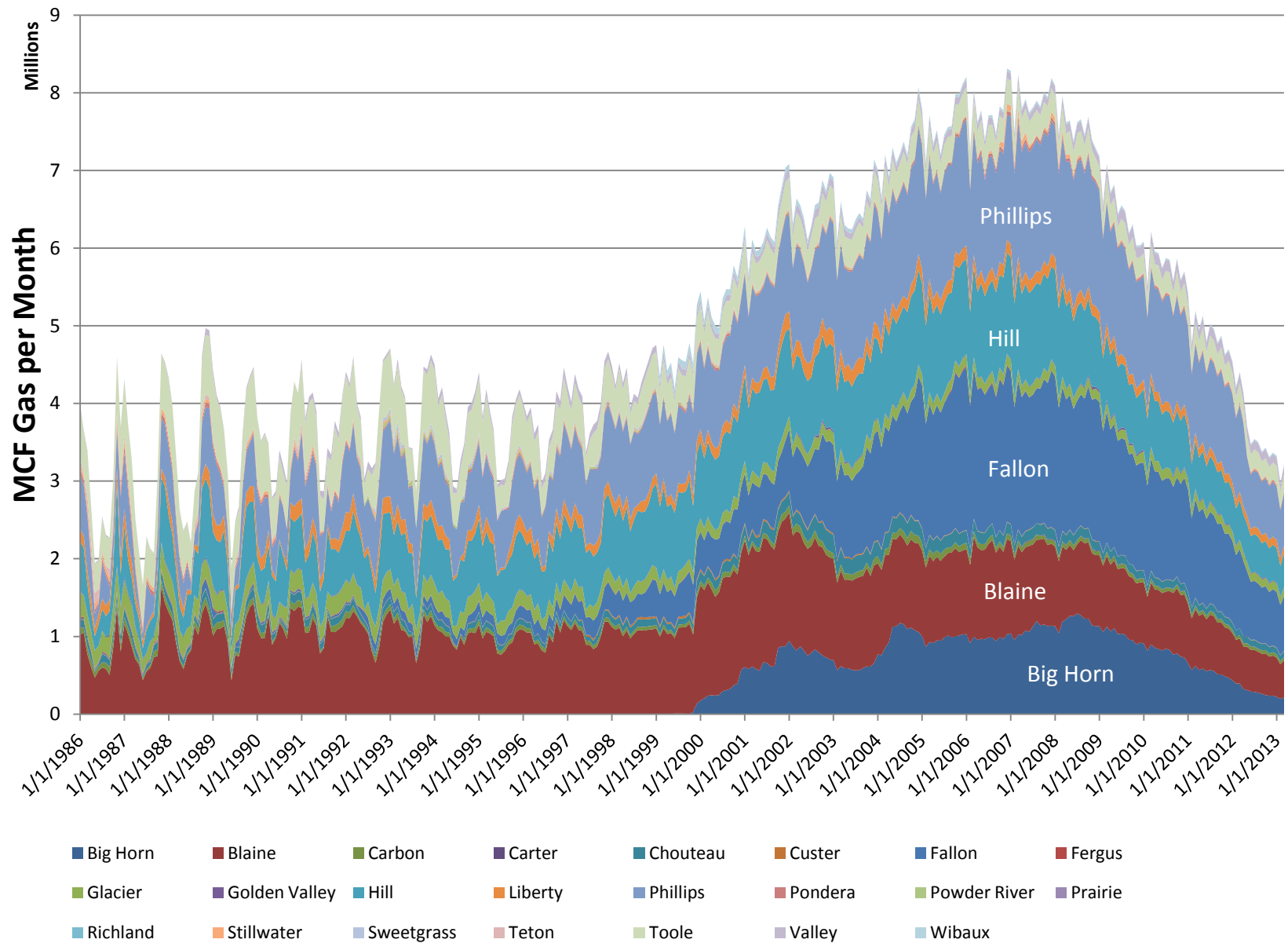
Historical Production



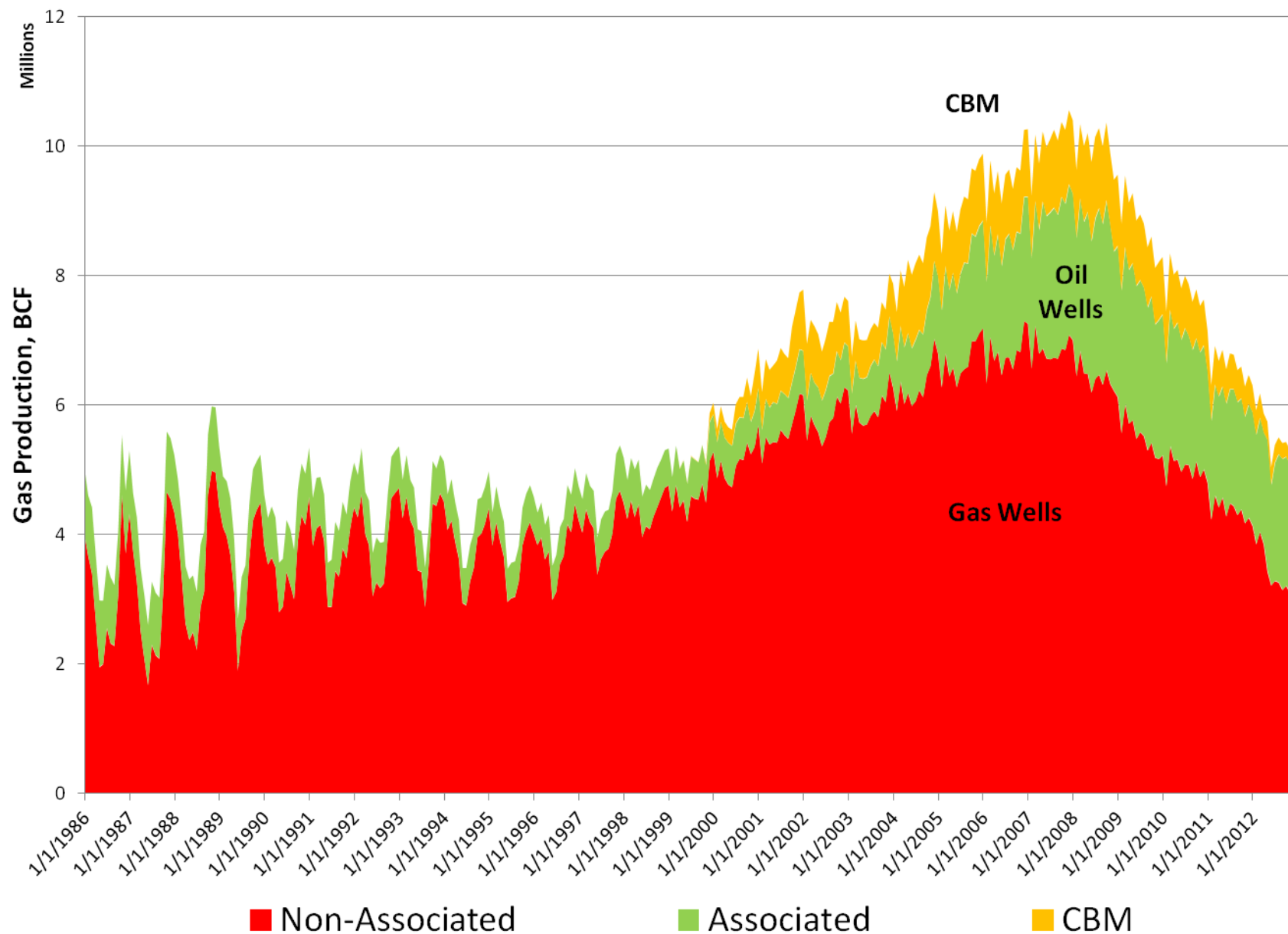
Montana Oil Production by County, Through March 2013



Monthly Gas Production by County Through March 2013

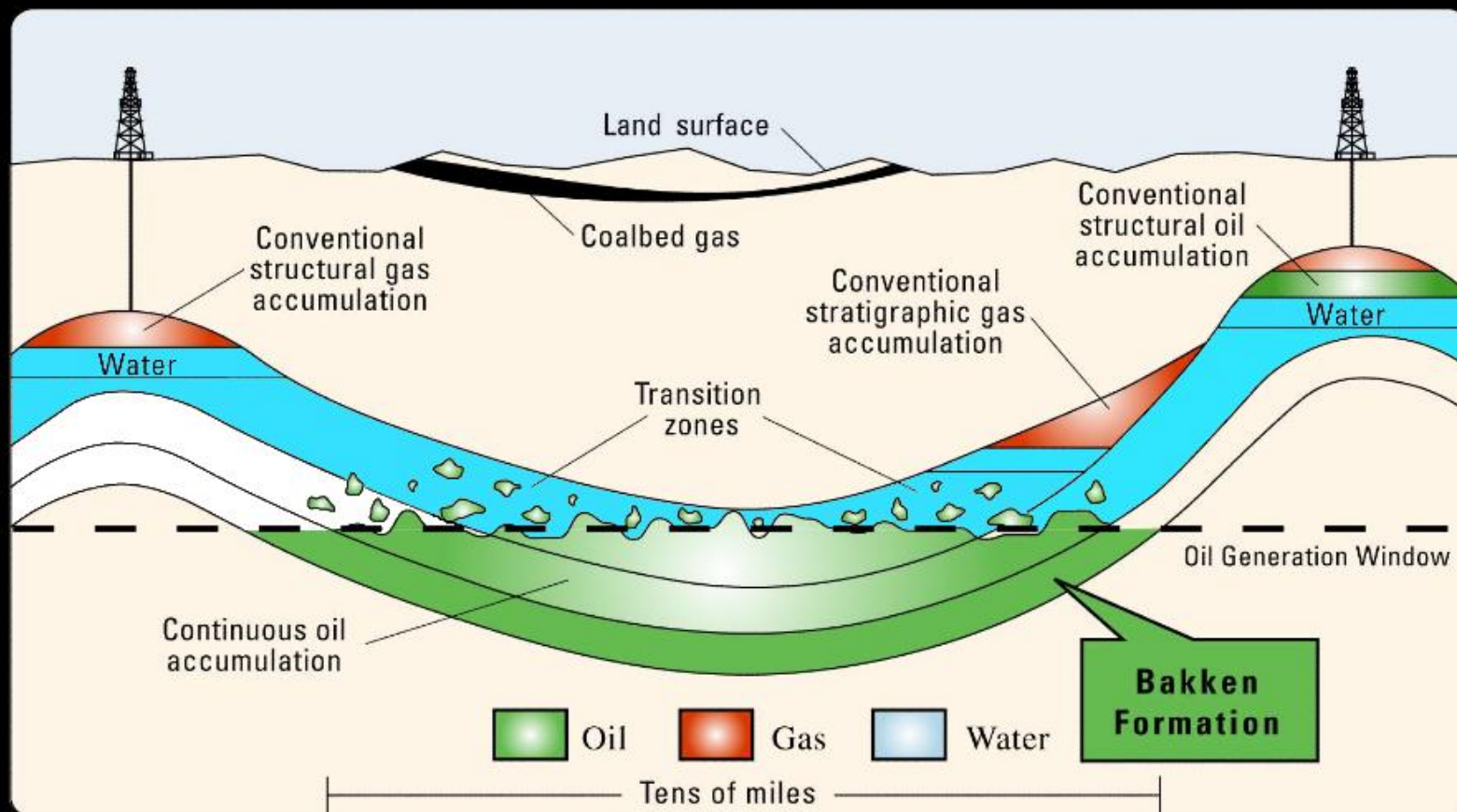


Montana Gas Production , 1986 through 2012



Conventional vs Continuous Resources

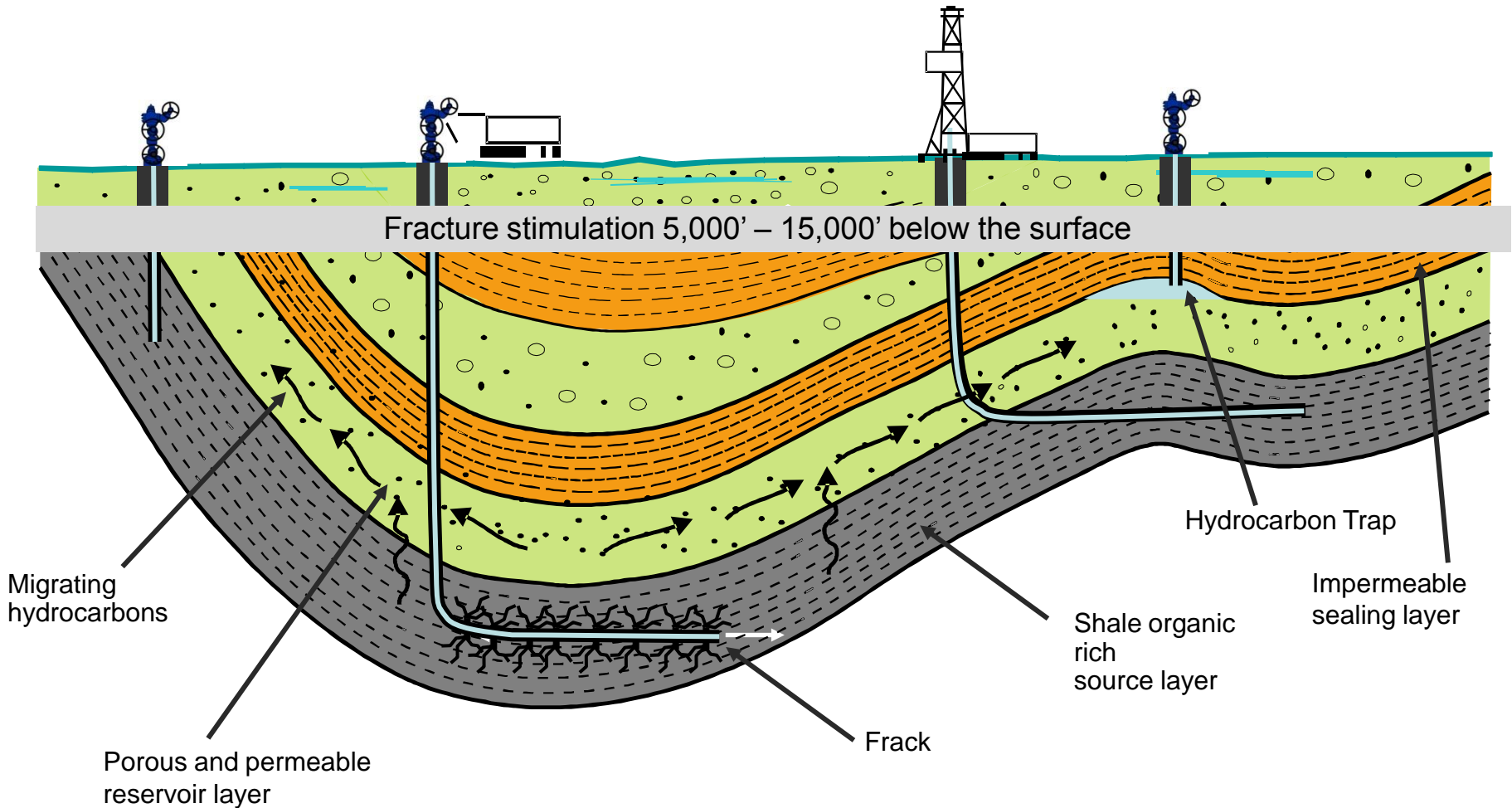
Continuous Shale Accumulations



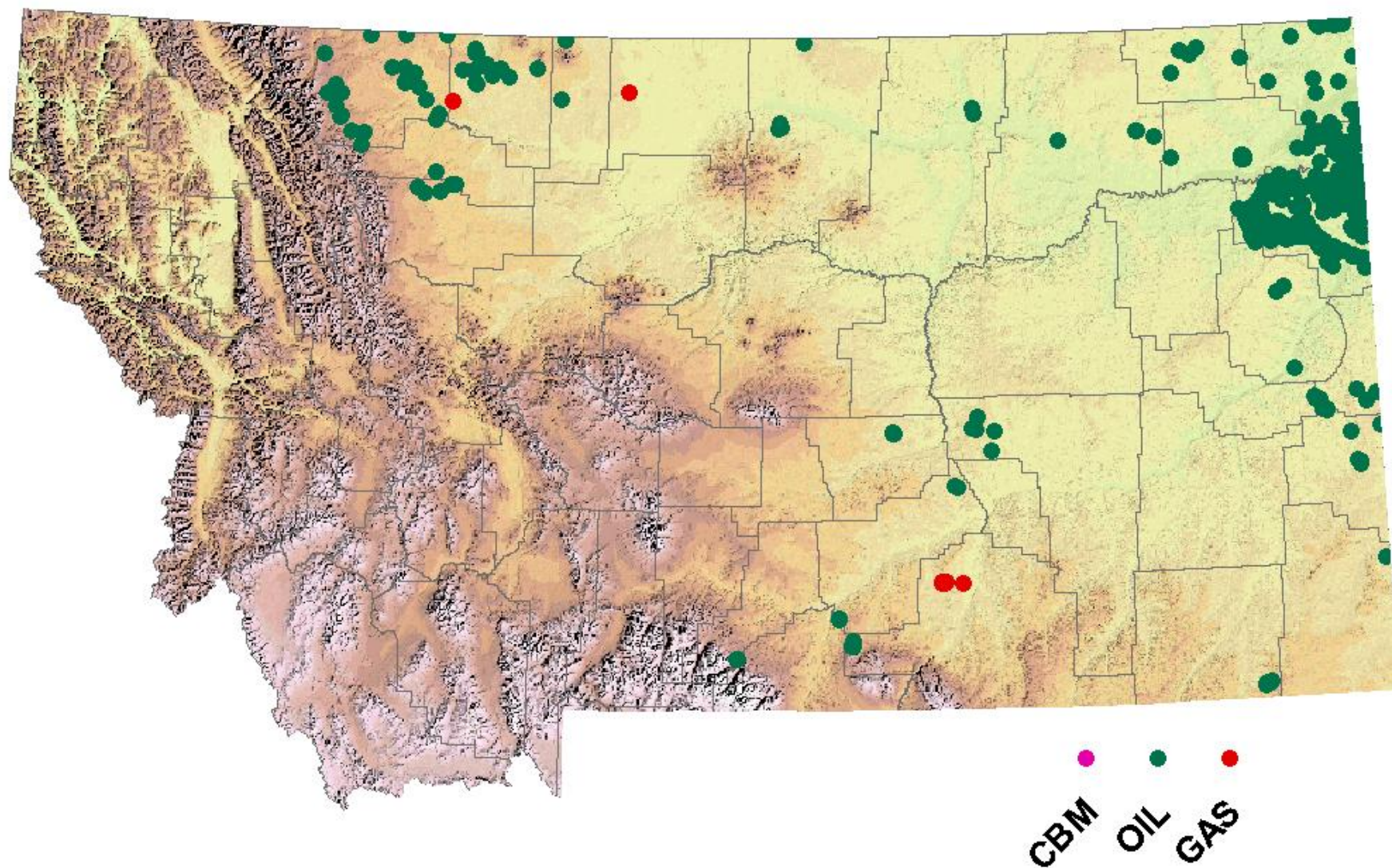
REQUIREMENT... the shale is now, or was at sometime in its history, within the oil or gas generation window

Technology's Role

Why the revolution?

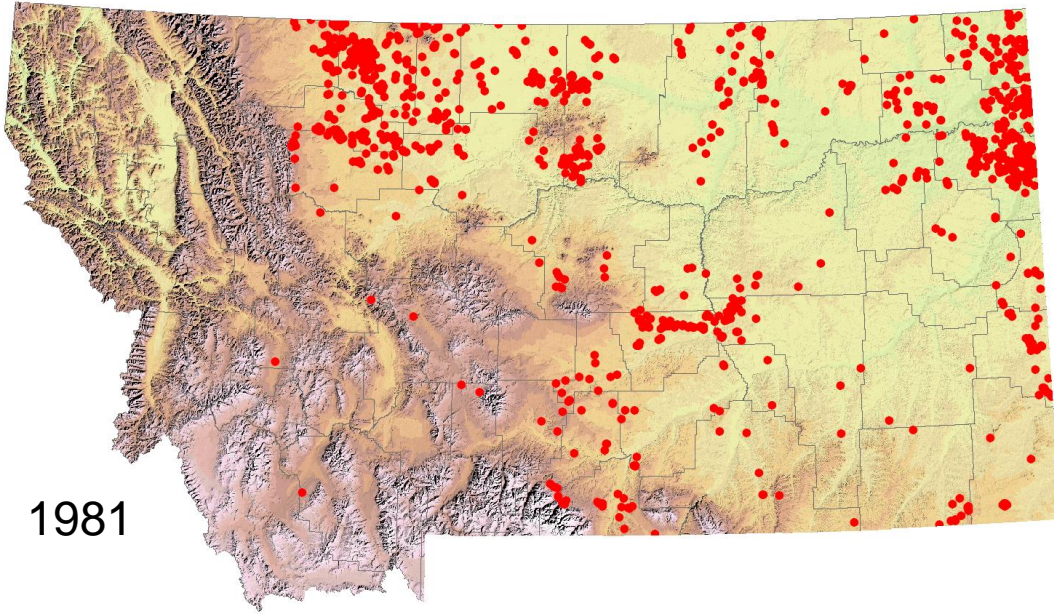


Permits Issued After January 1, 2012

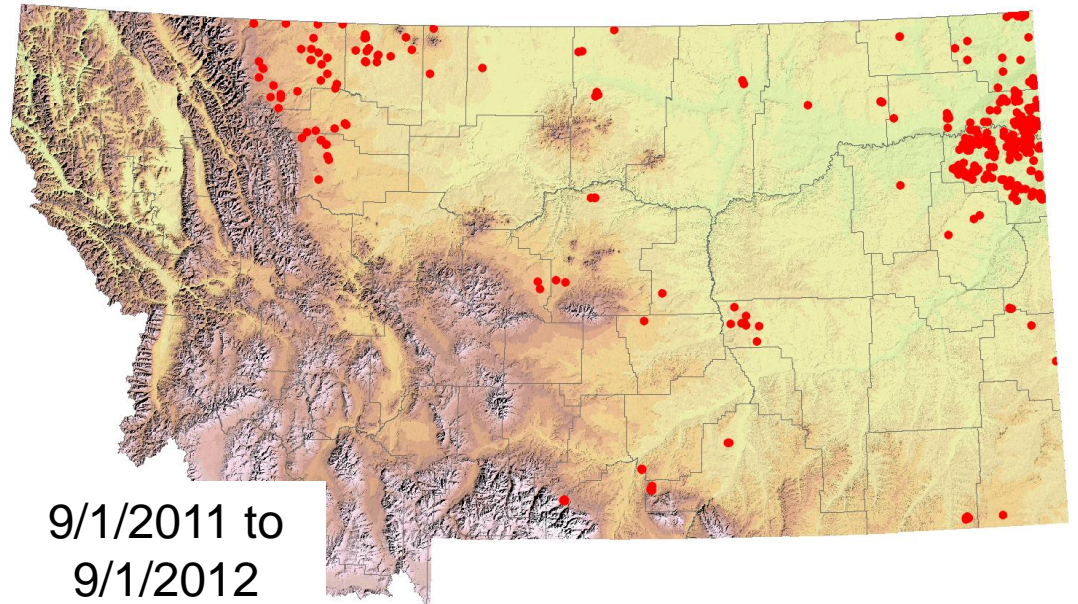


1981 vs. Current Activity

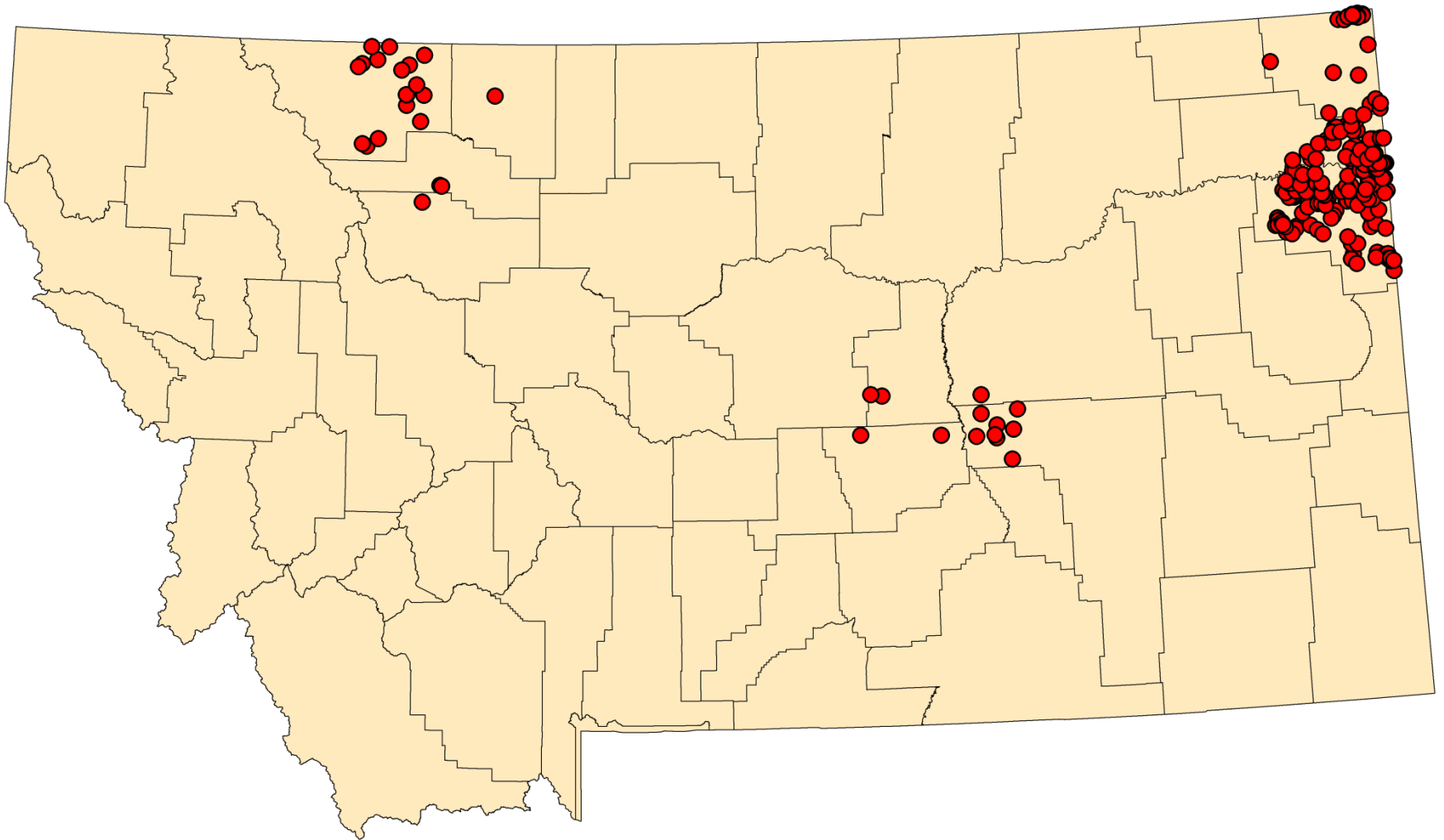
1981



9/1/2011 to
9/1/2012

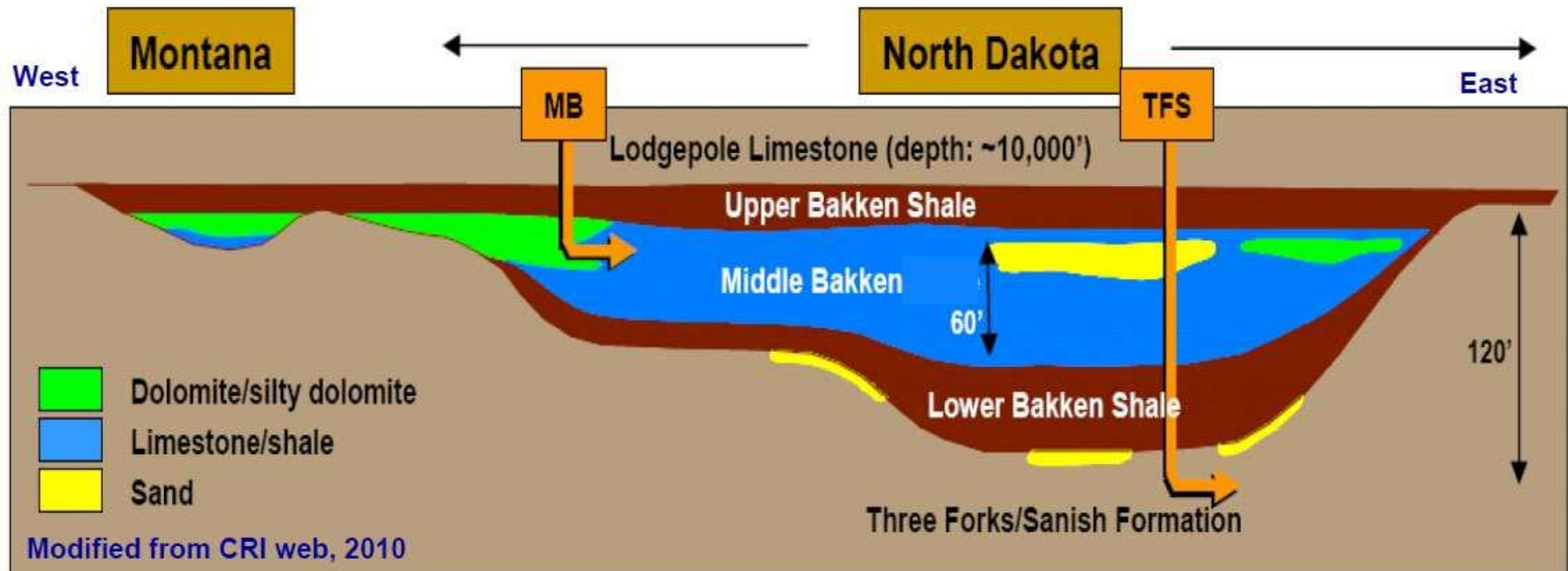


Drilling Permits, Horizontal Wells

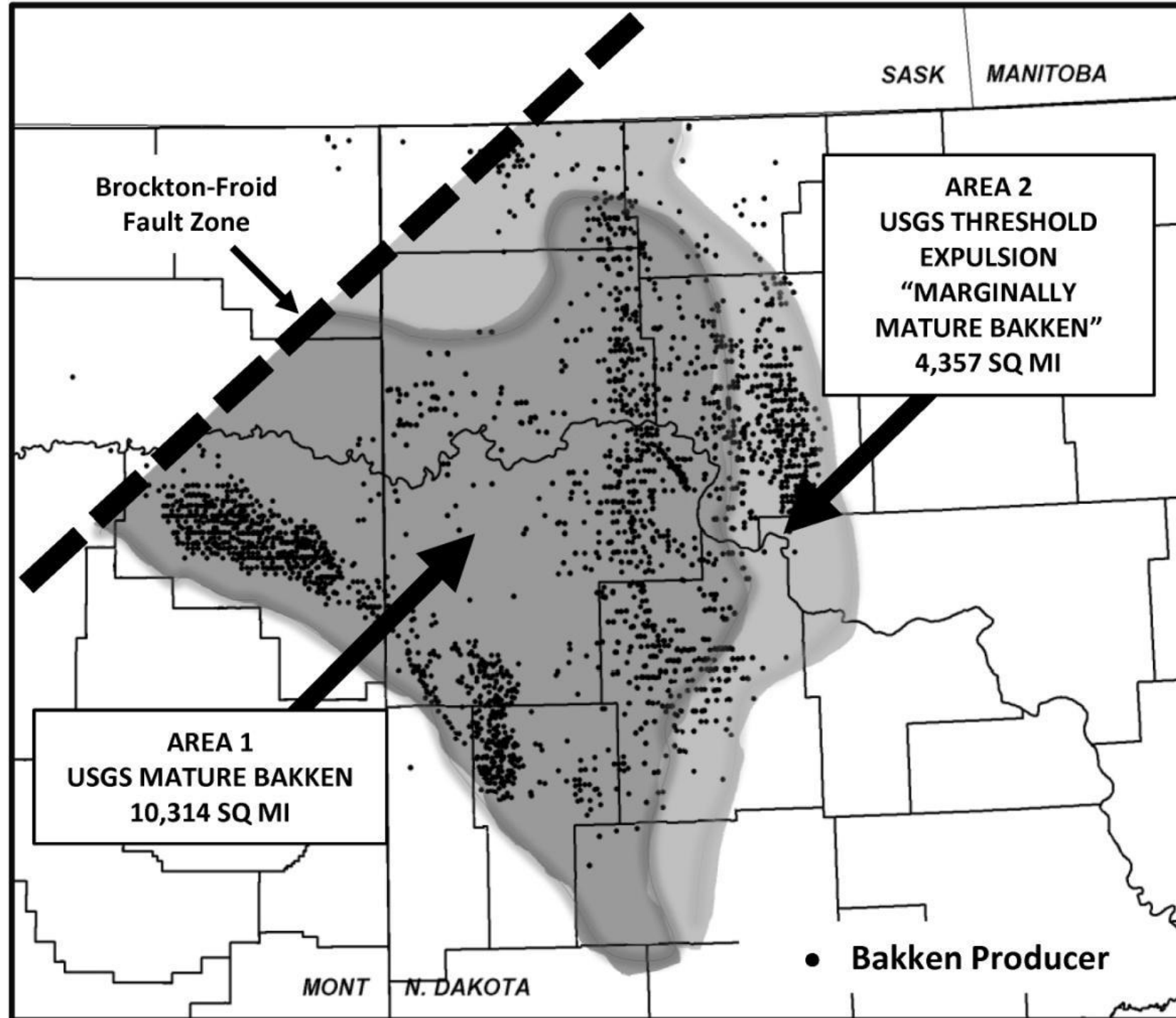


Horizontal Oil Shale Activity

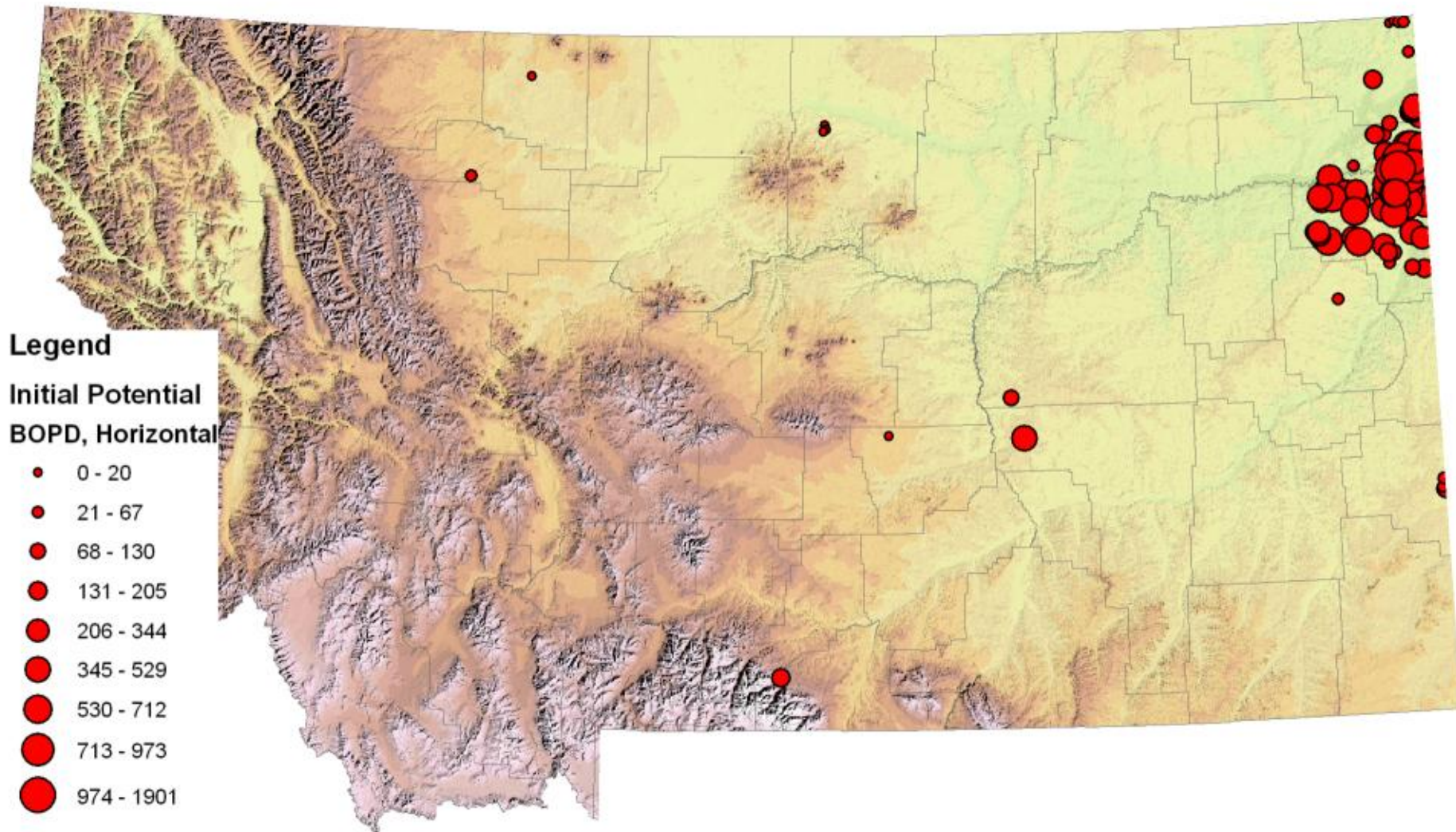
Middle Bakken / Three Forks Pay Variation



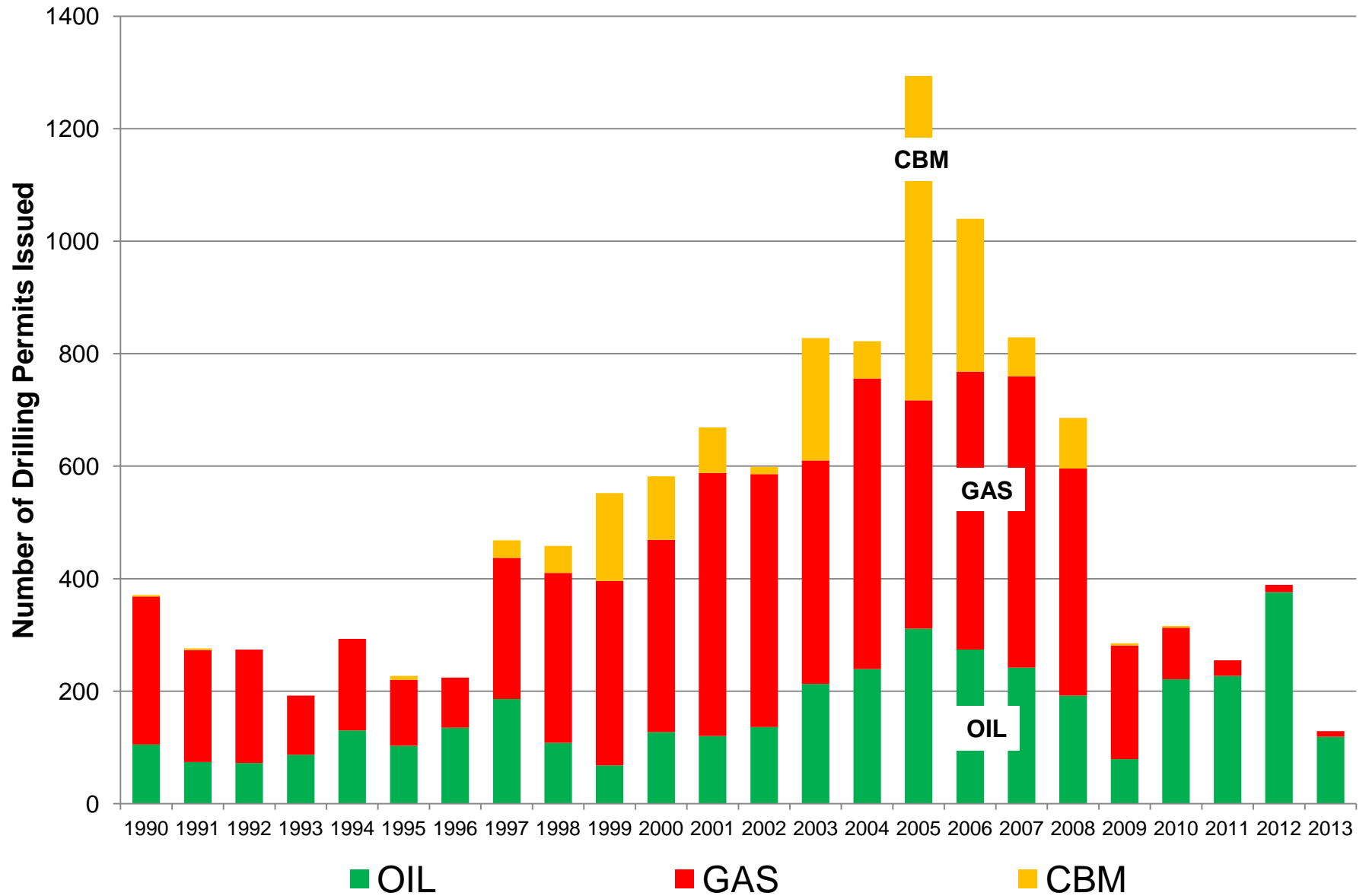
- **Middle Bakken pay not a shale lithology**
Complex, laterally varying lithology & play types
Stratigraphic / diagenetic trap drivers
- **Underlying Three Forks 'non-shale' play potential established 2008**
Also sourced by Bakken shale
Dual zone development underway



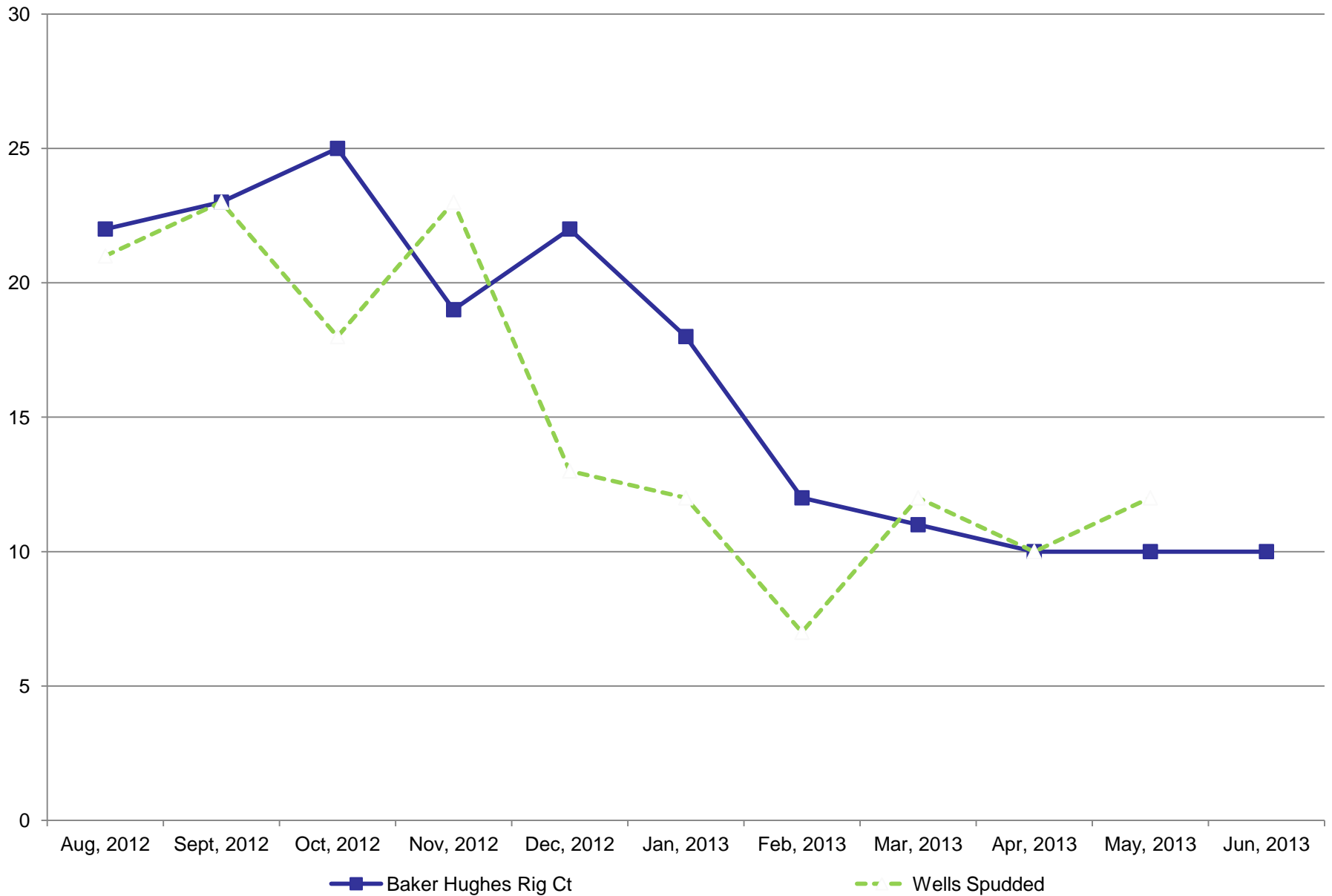
Reported Initial Potential, All Horizontal Wells Since January 2012



Drilling Permits

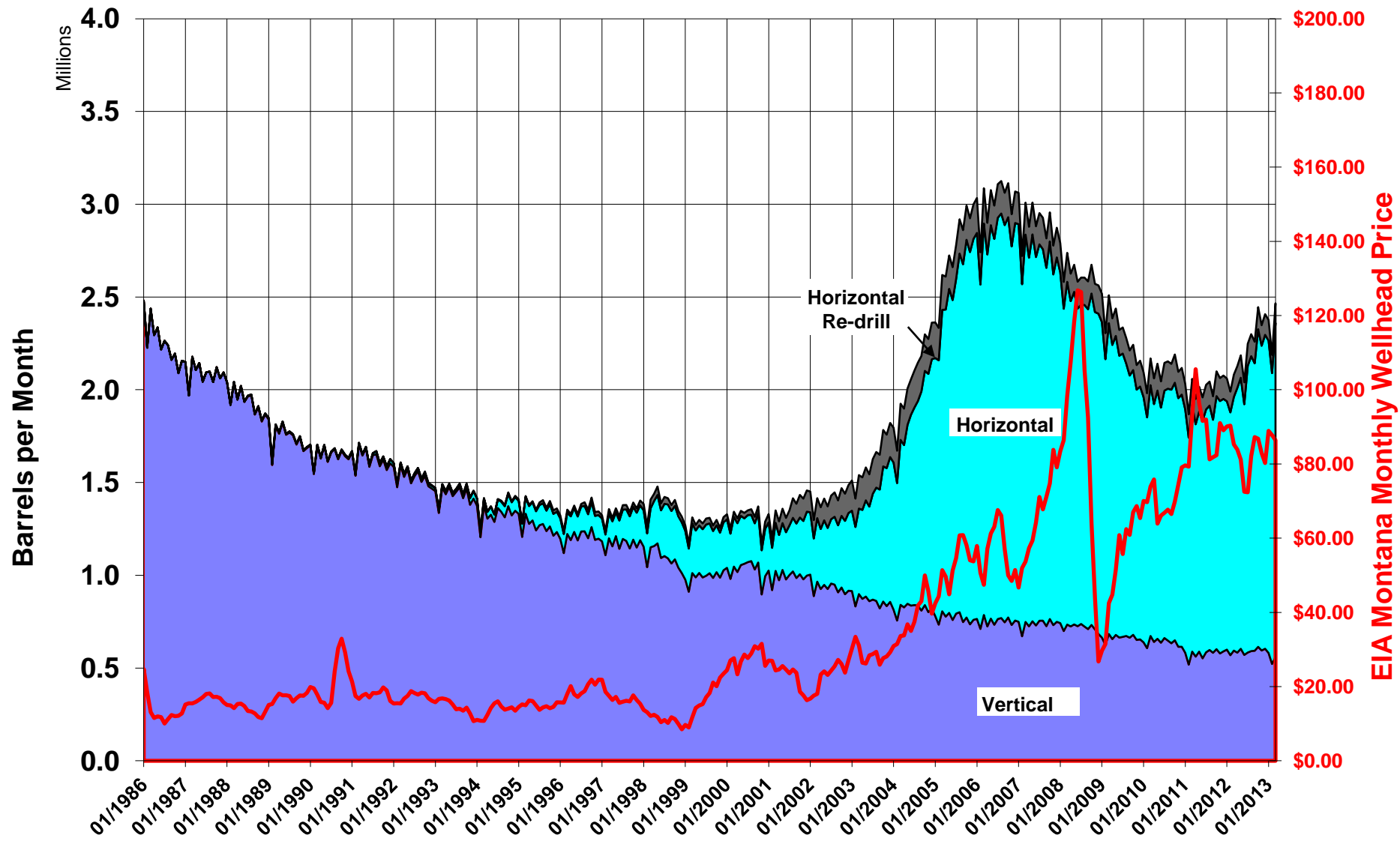


Industry Rig Count Vs. Wells Spudded



Monthly Oil Production, Vertical vs. Horizontal Wells

January 1986 through March 2013





www.bogc.dnrc.mt.gov